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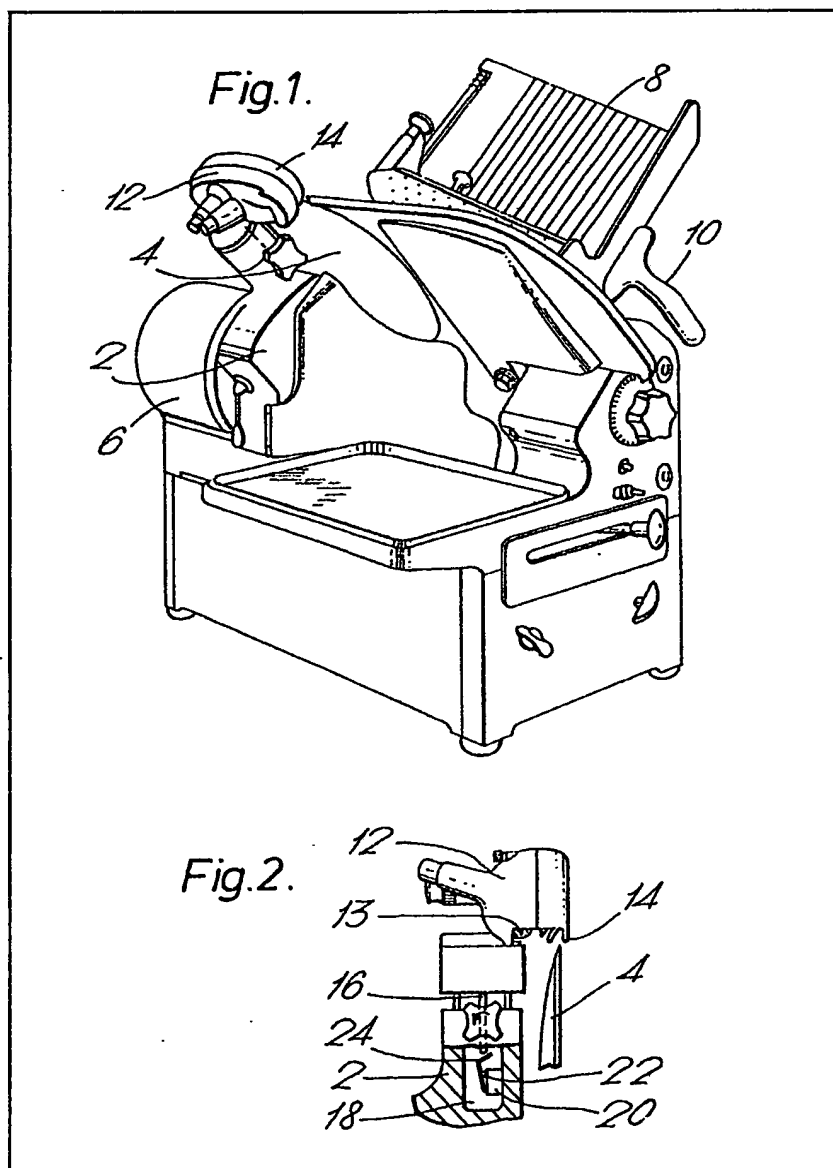
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(54) Safety device for food slicing  
machine

(57) A food slicing machine of the  
type having a motor driven rotary  
blade 4 and a combined sharpening  
device 12 and guard 14 which may be  
moved from a position in which the  
free edge of the blade 4 is guarded to

a position in which the sharpening  
device 12 acts on the blade 4. During  
movement between these two  
positions, the upper free edge of the  
blade 4 may be exposed. The  
invention lies in the provision of  
means (viz microswitch 20 and  
operating pin 16) to disconnect the  
power to the motor driving the blade  
4, as the blade guard 14 is raised.



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Fig.1.

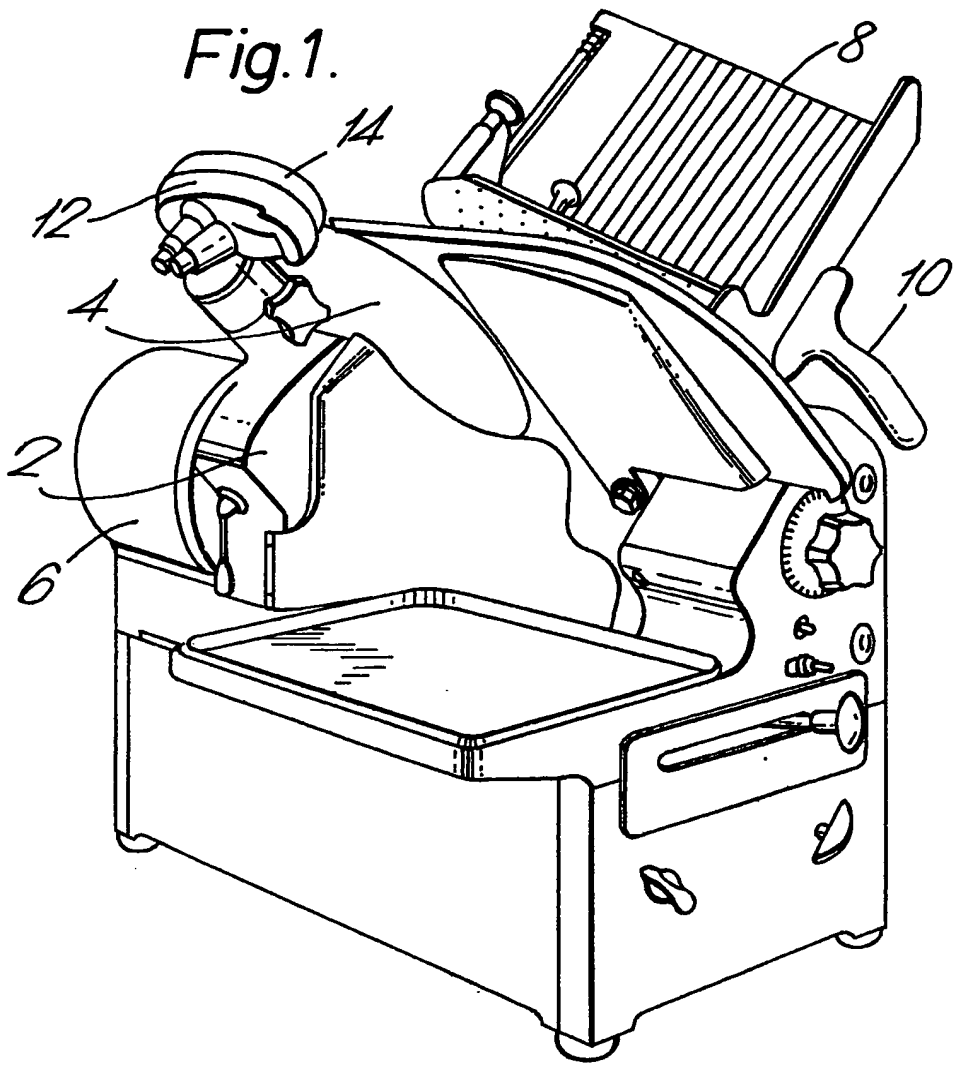
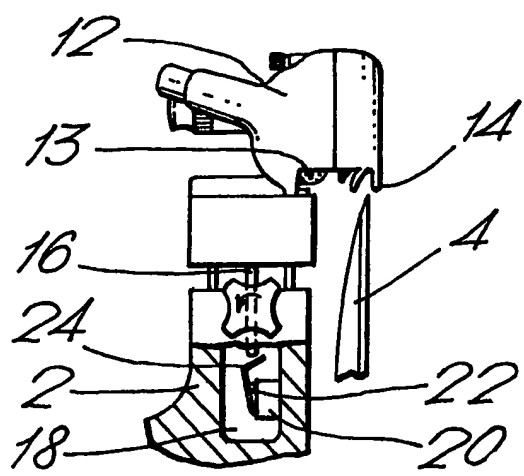


Fig.2.



## SPECIFICATION

## Cut out system for food slicing machines

This invention relates to food slicing machines of the type having a rotating circular blade and is particularly concerned with a sharpening device which is employed to sharpen the cutting edge of the blade and to shield the exposed upper edge of the blade.

Normally the exposed upper edge portion of the blade is protected by the guard of a sharpening device during normal operation of the food slicing machine, the device being movable to a position in which sharpening stones can be applied to the exposed portion of the blade edge when it is desired to sharpen the blade. As this sharpening operation has to take place at fairly frequent intervals it is desirable for the movement of the device from the blade and the movement of the sharpening stones to the blade to be as simple as possible.

Our British Patent Specification No. 1 213 643 discloses a food slicing machine having a sharpening device in which the housing acts both to protect the exposed upper edge portion of the rotatable blade and house sharpening stones for the blade edge. The device is adjustable from a position in which the blade edge is protected for normal running of the machine to a position in which the sharpening stones can be brought into operation to sharpen the blade edge by a movement parallel to or substantially parallel to the plane of the blade and a movement perpendicular to or substantially perpendicular to that plane. Thus all that needs to be done is to lift the device housing relatively to the body of the machine and the body of the blade, move the guard housing perpendicular to the plane of the blade and then push the device housing down over the blade to the position in which the sharpening stones can be applied to the blade edge. When the blade has been sharpened, the guard housing is again lifted and moved back perpendicular to the blade and then pushed down in a plane parallel to the blade to the position in which the blade is protected for normal running.

One disadvantage with this type of arrangement in which the sharpening device is raised relative to the blade is that such displacement invariably exposes a small portion of the blade at points where the ends of the sharpening device meet the guard around the blade. Whilst the exposed portion of the blade is small and access to that portion may be difficult, nevertheless it is conceivable that the operator could contact the blade with a finger. Accordingly, it is highly desirable to ensure that when ever a portion of the blade is exposed the blade is stationary.

Therefore according to the present invention there is provided a food slicing machine having a rotary blade of the type which includes a combined sharpening device and guard which is raised and lowered to facilitate the sharpening operation exposing a portion of the blade, in which the sharpening device is constructed and arranged

so that when it is raised the power to the motor driving the blade is disconnected thereby preventing rotation of the blade.

The arrangement of the invention prevents accidental switching on of the machine when the sharpening device is raised thereby increasing the safety factor of the machine.

The cut-off system for the motor may be achieved in a number of ways. For example, an electrical contact may be provided upon the sharpening device which abuts an electrical contact provided within the housing of the food slicing machine, the contacts being parted when the sharpening attachment is raised thereby breaking an electrical circuit. Alternatively a switch may be provided on the sharpener device or more preferably within the food slicing machine housing, and arranged so that when the sharpening device is raised the switch is tripped breaking the electrical circuit.

The invention will now be illustrated with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a food slicing machine,

Figure 2 is a side elevation, partly in section, of the sharpening device incorporating a microswitch.

The food slicing machine, comprises essentially of a main housing generally indicated at 2 in which a circular knife blade 4 is rotatably driven by a motor 6. Food is placed in a hopper 8 and is fed to the blade by gravity, the hopper being reciprocated passed the blade either manually by means of a handle 10 or by a motor (not shown).

The housing 2 supports a sharpener housing 12 and cover 14 which acts to protect the exposed upper edge portion of the blade 4. The housing 12 accommodates one or more sharpening and honing stones 13 which are rotatably mounted from a wall of the housing and can be brought to bear against the edge of the blade 4 when the housing is in the sharpening position.

Figure 2 shows the sharpening device in the raised position.

The sharpening device is provided with a pin 16 which extends from the base thereof into an aperture 18 within the housing 2 of the food slicing machine. The aperture 18 contains a microswitch which is arranged in series in the electrical circuit powering the electric motor acting as the drive for the blade 4. The microswitch has a button 22 which is spring biased to break the electrical circuit. A bent lever 24 is pivoted from one end and positioned such that when the sharpening device is lowered, the pin 16 acts on the lever causing it to pivot and abut against the button 22 depressing the button to close the microswitch thereby powering the electric motor. When the device is raised as in Figure 2 the switch is spring loaded to the off position.

In an alternative arrangement the pin 16 may be provided with an electrical contact which abuts a second contact within the housing so that when

the sharpening device is raised the contacts part  
th reby breaking an electrical circuit.

- 5 Whilst the provision of contacts and switches is  
shown within the housing in the interests of  
hygiene and safety it is readily possible for the  
switch arrangement to be arranged on the outside  
f the housing and sharpening device.

#### CLAIMS

- 10 1. A food slicing machine of the type having a  
rotary blade and a combined sharpening device  
and guard which is movable from one position in  
which the free edge of the blade is guarded to a  
second position in which the blade may be  
sharpened, characterised in that means are  
15 provided so that when the combined sharpening  
device and guard is raised from the guarding  
position, the power to the motor driving the blade  
is disconnected thereby preventing location of the

blade.

- 20 2. A food slicing machin as claimed in Claim 1  
in which the means for disconnecting the power  
supplied to the motor comprises an electrical  
contact on the guard/sharpening device and a  
second contact held by the housing of the food  
25 slicing machine, the contacts being made to \*  
enable the power supply when the guard is down  
to shield the blade, the contacts being parted  
when the guard/sharpening attachment is raised.

- 30 3. A food slicing machine as claimed in Claim 1  
in which the means to disconnect the power  
supply to the motor comprises a switch on the  
guard/sharpening device or on the food slicing  
machine housing arranged so that when the  
guard/sharpening device is raised, the switch is  
35 tripped to break the electrical circuit.

4. A food slicing machine substantially as  
herein described with reference to the  
accompanying drawings.